

SUSTAINABLE SITES INITIATIVE



What Is Sustainability?

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Brundtland Report, Our Common Future, 1987

Environment/ Ecology

Protect and restore Ecosystem services

Economy/ Employment

Provide secure, long term employment without jeopardizing the health of ecosystems

Equity/ Equality

Recognize that the well-being of individuals and the larger community are interdependent



SUSTAINABLE SITES INITIATIVE

Purpose:

Establish **Sustainable Sites** as the industry-adopted **standard** which gives **direction** to and **recognition** of **sustainable landscapes** through the creation and implementation of clear and thorough **design, implementation** and **maintenance** criteria.



Potential project types

- public gardens
- parks
- trails systems
- industrial and office parks
- airports, transit stations
- campuses
- streetscapes
- greenbelts
- residential developments
- commercial developments



Success of Green Building

Over **12,000** registered LEED **projects** since 2000
and **37,045** LEED accredited **professionals**.

The value of **green building construction** is expected
to exceed **\$12 billion** in 2007.

McGraw-Hill Construction Analytics



Looks green but is it sustainable?



Linking landscapes to sustainability...

National patterns of water use indicate that the **largest demand for water** withdrawals is for:

- thermoelectric generation 47%
- **irrigation 34%**
- public supply 9%
- industrial 6%
- mining, 1%
- livestock 1%
- domestic 1%
- commercial uses 1 %



Linking landscapes to sustainability...

78 million households in the U.S. use home and **garden pesticides**.

U.S. Environmental Protection Agency (EPA). 2004.
Pesticides Industry Sales and Usage: 2000 and 2001 Market Estimates.
EPA-733-R-04-001

Soils that are compacted during site preparation and construction **lose the ability to absorb storm water** and **supply plant roots** with air and water

Breland and Hansen, 1996



Linking landscapes to sustainability...

Disposing of **organic materials** in Texas **landfills** costs more than **\$150 million a year** and consumes more than **15 million cubic yards** of space.

TCEQ Yardwise - *Green Guide to Yard Care*



Linking landscapes to sustainability...

Scientists estimate that **strategically planting trees** and vegetation **reduces** cooling **energy consumption** by up to **25%**.

U.S. EPA – Heat Island Effect



Guiding Principles for Sustainable Sites

Do No Harm

Preserve and Restore the Natural Environment

Design with Nature and Culture

Provide Regenerative Systems as Intergenerational Equity



Guiding Principles for Sustainable Sites

Support and Evolutionary Thinking
Process

Use a Systems Thinking Approach

Use a Collaborative and Ethical
Approach

Maintain Integrity in Leadership and
Research



Sustainable Sites & Public Gardens

Leadership Demonstration Education Promotion



Sustainable Practices Vegetation



Sustainable Practices

Plant Selection

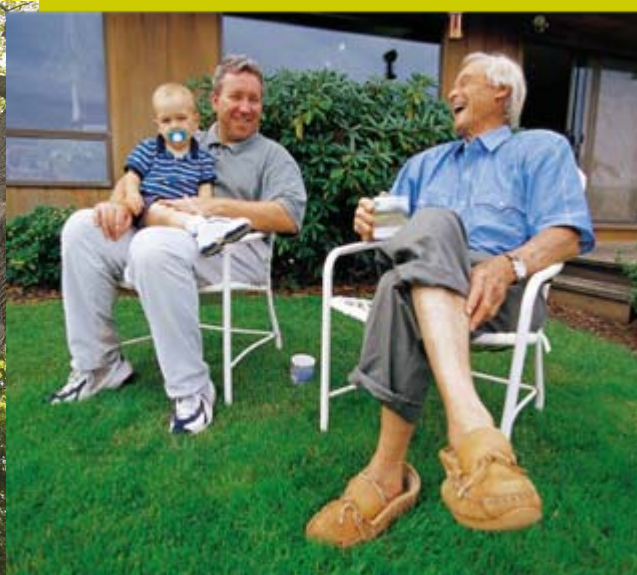
In the **United States**, exotic **invasive species** have been responsible for significant ecological (**40 million acres invaded**) and economic (**\$38 billion annual**) damage (Pimental 2000).

Along with habitat loss, **invasive species** are considered a **major cause of loss of biodiversity** and species. (Lodge 2005).

The **horticulture industry** has been cited as one of the **most damaging pathways** of deliberate **introduction of invasive plants** that are increasing in number and in area affected (Lodge 2005).

Sustainable Practices

Promote human health and well being



Sustainable Practices

Plant Production, Implementation and Maintenance



- Compost
- Mulch
- Organic gardening
- Proper planting techniques
- Promote and sustain biodiversity
- Protect healthy soils
- Improve degraded soils
- Minimizing soil disturbance

Sustainable Practices

Reduce Energy use, Use resources efficiently, Reclaim



- Use durable materials
 - Reuse existing structures
 - Facilitate on-site recycling
 - Use renewable materials
 - Reduce embodied and occupational energy use
- Use local materials
 - Use renewable energy
 - Use materials with recycled content

Upcoming Reports

- **Preliminary reports** to be released **October 2007** and 2008
 - **Final draft** of the *Practice Guidelines and Metrics* released **May 2009**
 - Goals and objectives to achieve sustainability in site design, construction and maintenance
 - Baseline knowledge to understand and improve conditions onsite
 - Suggested tools or best practices that have been successful in addressing and improving unsatisfactory conditions
 - Quantitative evaluation of the triple bottom line
 - Measurement of site performance in a variety of site and regional contexts
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- For more information on how to get involved on a **REVIEW COMMITTEE** for these reports, please visit www.sustainable sites.org

Participants

Lady Bird Johnson Wildflower Center

American Society of Landscape Architects

United States Botanic Garden

U.S. Green Building Council

EPA's GreenScapes Program

Andropogon Associates

National Recreation and Parks Association

American Society of Civil Engineer (ASCE) - Environment and Water Resources Institute

National Association of County and City Health Officials

The Nature Conservancy's Global Invasive Species Initiative

Center for Sustainable Development - University of Texas at Austin



www.Sustainablesites.org

